PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Appellant(s):	Laughlin et al.	
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Art Unit:	3627	
Examiner:	Ade, Oger Garcia	
Title:	MIN/MAX INVENTORY CONTROL SYSTEM AND ASSOCIATED METHOD AND COMPUTER PROGRAM PRODUCT	

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REVISED APPEAL BRIEF UNDER 37 CFR § 41.37

This Revised Appeal Brief is filed pursuant to the "Notice of Appeal to the Board of Patent Appeals and Interferences" filed November 3, 2006, following a "Notice of Panel Decision from Pre-Appeal Brief Review" of January 26, 2007, and in response to the Notification of Non-Compliant Appeal Brief dated May 10, 2007. This Revised Brief supplements the Status of Claims section of the Appeal Brief filed February 22, 2007, to identify those claims hereby being appealed.

1. ***Real Party in Interest.***

The real party in interest in this appeal is The Boeing Company, the assignee of the above-referenced patent application.

2. ***Related Appeals and Interferences.***

There are no related appeals and/or interferences involving this application or its subject matter.

3. ***Status of Claims.***

The present application includes pending Claims 1-9, 11-19, 59 and 60, all of which stand rejected. All of pending Claims 1-9, 11-19, 59 and 60 are hereby being appealed.

4. ***Status of Amendments.***

There are no unentered amendments in this application.

5. ***Summary of Claimed Subject Matter.***

Generally, embodiments of the present invention provide an improved lean inventory control system and method that employ a minimum and a maximum inventory level (min/max inventory) and a customer located warehouse, and allow the supplier to monitor the inventory and to provide additional products to the customer as the customer's inventory changes. By monitoring the inventory of the customer as the inventory changes, the supplier can better control the supplier's wasteful excess inventory, and better match production time with customer demand. Also, by providing additional products to the customer based upon monitored inventory levels instead of based upon a schedule or separate purchase orders from the customer, the expensive and wasteful administrative transactions are reduced. Additionally, the min/max inventory system allows the supplier to provide products to the customer from a warehouse near the customer's location as the customer's inventory level changes, which reduces wasteful transportation time to better match product delivery with customer demand. Pat. Appl., page 3, lines 4-18.

More particularly, independent Claim 1 recites a method for managing an inventory of a product of a supplier **20** that is provided to a customer **30**. *Id.*, FIG. 1. As recited, the method includes creating an open purchase order including a minimum and a maximum of acceptable inventory of the product. *Id.*, page 9, line 28 – page 10, line 12; and FIG. 2, block **100**. A supply amount of the product is stored in a storage unit **40** that is remote from the supplier and proximate to the customer (from which additional amounts of the product can be provided to the customer). *Id.*, page 9, lines 20-27; page 10, lines 13-18; and FIG. 2, block **101**. A product inventory count for the product is maintained by decreasing the product inventory count as the

customer ships out the product, and conversely increasing the product inventory count as the customer receives additional amounts of the product. *Id.*, page 10, lines 21-34; page 11, lines 9-15; and FIG. 2, blocks **104-112**. As also recited, the product inventory count is monitored at a supplier location (remote from the customer location) such that the supplier is capable of detecting when product inventory counts approach the respective lower limits by falling below a notification level greater than the lower limit and between the lower limit and the upper limit. *Id.*, page 9, lines 17-20; page 11, line 23 – page 12, line 6; and FIG. 2, block **114**.

Independent Claim 11 recites a system **10** for providing at least one product from a supplier **20** to at least one remote customer **30**, where the customer is capable of receiving and shipping out the product(s). Pat. Appl., page 9, lines 12-14; and FIG. 1. As recited, the supplier and the customer(s) have an open purchase order including an acceptable inventory range bounded by a lower and an upper limit for each product that the supplier provides to the customer(s). *Id.*, page 9, line 28 – page 10, line 12. The system includes a storage unit **40** disposed remote from the supplier and proximate the customer(s), a first processing unit **32** disposed proximate the customer(s), and a second processing unit **22** disposed proximate the supplier. *Id.*, page 9, lines 14-27. The storage unit includes a supply amount of the product(s) stored therein, the supplier providing the product(s) to the customer from that supply amount. *Id.*, page 10, lines 13-18.

The first processing unit maintains a product inventory count for each product representative of the amount of the product that is maintained in inventory by the respective customer. As recited, the product inventory count is decreased as the customer ships out each product, and increased as the customer receives additional amounts of each product. *Id.*, page 10, lines 21-34; and page 11, lines 9-15.

One or both of the supplier and the second processing unit is capable of monitoring the product inventory count such that the supplier and/or second processing unit is capable of detecting product inventory counts that approach the respective lower limit. In this regard, the product inventory count approaches the respective lower limit when the product inventory count falls below a notification level greater than the lower limit and between the lower limit and the upper limit. *Id.*, page 11, line 23 – page 12, line 6.

6. ***Grounds of Withdrawal/Rejection to be Reviewed on Appeal.***

Currently, Claims 1-9, 11-19, 59 and 60 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2002/0010659 to Cruse et al., in view of U.S. Patent No. 5,819,232 to Shipman.

7. ***Argument.***

As indicated above, all of the pending claims of the present application stand rejected as being unpatentable over Cruse in view of Shipman. As explained below, Appellants respectfully submit that the claimed invention of the present application is patentably distinct from Cruse and Shipman, taken individually or in combination.

As background, Cruse provides an inventory management/control system that enables point of use replenishment coupled with available centralized oversight. As disclosed, when inventory reaches a pre-set level (from a two-bin/kanban arrangement), a code representative of the particular stock is forwarded to a central database repository. From the central database repository, a purchase order can be sent to a pre-identified supplier such that the supplier can thereafter ship the stock directly to the point of use. A receipt and/or a code indicative of the new stock can then be entered into the system. As also disclosed, centralized authority can be granted access to the central database repository to enable review, modification and configuration of all or a part of the total inventory situation.

Again, independent Claim 1 of the present application provides a method for managing an inventory of a product of a supplier that is provided to a customer. As recited, the method includes creating an open purchase order including a minimum and a maximum of acceptable inventory of the product. A supply amount of the product is stored in a storage unit that is remote from the supplier and proximate to the customer (from which additional amounts of the product can be provided to the customer). A product inventory count for the product is maintained by decreasing the product inventory count as the customer ships out the product, and conversely increasing the product inventory count as the customer receives additional amounts of the product. As also recited, the product inventory count is monitored at a supplier location

(remote from the customer location) such that the supplier is capable of detecting when product inventory counts approach the respective lower limits by falling below a notification level greater than the lower limit and between the lower limit and the upper limit.

In contrast to independent Claim 1, as previously explained and still conceded by the final Official Action, Cruse does not teach or suggest monitoring inventory of a consumer at a supplier location (remote from the customer location) such that the supplier is capable of detecting when product inventory counts approach a lower inventory limit. Nonetheless, the final Official Action now alleges that Shipman teaches this feature of the claimed invention, and that it would have been obvious to one skilled in the art to modify Cruse with the teachings of Shipman to disclose the claimed invention. Appellants respectfully disagree.

Shipman discloses an apparatus and method for inventory control of a manufacturing or distribution process. As disclosed, the apparatus and method use a computer model to determine a demand forecast by using an optimized historical weighting factor, and determine an upper and a lower bound of a planned inventory by explicitly accounting for customer-order lead time. The apparatus and method then compute a production schedule at predetermined intervals to maintain an actual inventory between the upper and lower bounds of the planned inventory.

Similar to Cruse, newly cited Shipman also does not teach or suggest monitoring inventory of a consumer at a supplier location (remote from the customer location) such that the supplier is capable of detecting when product inventory counts approach a lower inventory limit, as recited by the claimed invention. Shipman does appear to disclose monitoring inventory at a suppler location. But in contrast to the claimed invention, Shipman does not teach or suggest that the monitored inventory is that of a customer. Instead, Shipman discloses the supplier monitoring its own inventory such that the supplier can calculate predicted inventory for a plurality of future time intervals. The calculated inventory is then calculated and compared to upper and lower bounds to determine if a production schedule needs to be increased or decreased to maintain the supplier's inventory for those future time intervals within the respective bounds.

Accordingly, not only does Shipman fail to teach or suggest monitoring customer inventory at a supplier location, but Shipman also fails to teach or suggest that monitoring inventory to detect when current inventory approaches a lower limit by falling below a

notification level greater than the lower limit and between the lower limit and the upper limit, as also recited by the claimed invention. In this regard, instead of monitoring inventory (maintained inventory) to detect when the current inventory falls below a threshold, Shipman monitors inventory to detect when a future predicted inventory falls below a threshold; and determines a future production schedule based thereon. And instead of detecting when the future inventory falls below a threshold greater than a lower limit and between lower and upper limits, similar to the notification level of the claimed invention, Shipman merely detects when the future inventory is below the lower bound or above the upper bound.

Appellants therefore respectfully submit that the claimed invention of independent Claim 1, and by dependency Claims 2-10 and 59, is patentably distinct from Cruse and Shipman, taken individually or in combination. Appellants also respectfully submit that the claimed invention of independent Claim 11 recites subject matter similar to that of independent Claim 1. For example, like independent Claim 1, independent Claim 11 recites that the supplier and/or second processing unit disposed proximate the supplier is capable of monitoring the product inventory count such that the supplier and/or second processing unit is capable of detecting product inventory counts that approach a lower limit by falling below a notification level greater than the lower limit and between the lower limit and the upper limit. Also like independent Claim 1, independent Claim 11 recites a storage unit remote from the supplier and proximate the customer, where the supplier provides product to the customer from a supply amount of the product stored in the storage unit. Appellants therefore also respectfully submit that independent Claim 11, and by dependency Claims 12-20 and 60, is patentably distinct from Cruse and Shipman, taken individually or in combination, for at least the same reasons given above with respect to independent Claim 1.

For at least the reasons given above, Appellants respectfully submit that Claims 1-9, 11-19, 59 and 60 are patentably distinct from Cruse and Shipman, taken individually or in combination.

8. ***Claims Appendix.***

The claims currently on appeal are as follows:

1. (Previously Presented) A method for managing an inventory of at least one product of a supplier that is provided to at least one customer, wherein the at least one customer is capable of receiving and shipping out the at least one product, said method comprising:

creating an open purchase order comprising an acceptable inventory range bounded by a lower limit and an upper limit for each product that the supplier provides to the at least one customer;

storing a supply amount of the at least one product in a storage unit that is remote from the supplier and proximate to the customer;

maintaining a product inventory count for each product representative of the amount of the product that is maintained in inventory by the at least one customer, said maintaining comprising:

decreasing the product inventory count as the at least one customer ships out the respective product; and

increasing the product inventory count as the at least one customer receives additional amounts of the respective product, wherein the at least one customer receives the additional amounts from the supply amount stored in the storage unit; and

monitoring the product inventory count at a supplier location such that the supplier is capable of detecting when product inventory counts approach the respective lower limits, wherein the product inventory count approaches the respective lower limit when the product inventory count falls below a notification level greater than the lower limit and between the lower limit and the upper limit, and wherein the supplier location is remote from the customer location.

2. (Original) A method according to Claim 1 further comprising providing the respective customer with an additional amount of the respective product once the supplier has detected at least one product inventory count approaching the respective lower limit, wherein the additional amount is provided to the customer from the supply amount stored in the storage unit,

wherein providing the additional amount occurs independent of a purchase order associated with the additional amount, and wherein the product inventory count is within the acceptable inventory range once the respective customer receives the additional amount.

3. (Original) A method according to Claim 1, wherein maintaining the product inventory count further comprises storing the product inventory count in an electronic file, and transferring the electronic file to the supplier location to facilitate monitoring the product inventory count at the supplier location, wherein monitoring the product inventory count comprises monitoring the electronic file.

4. (Original) A method according to Claim 3, wherein transferring the electronic file comprises transferring the electronic file over the World Wide Web, and wherein monitoring the product inventory count comprises monitoring a display of the product inventory count stored within the electronic file.

5. (Original) A method according to Claim 3, wherein storing the product inventory count in an electronic file comprises storing the product inventory count in an electronic file in an extensible markup language format.

6. (Original) A method according to Claim 1, wherein each product includes at least one electronic identifier, and wherein maintaining the product inventory count comprises:

reading each electronic identifier as the customer ships out the respective product and immediately thereafter decreasing the product inventory count by the number of products shipped out as identified by the electronic identifiers; and

reading each electronic identifier as the customer receives the respective product from the storage unit and immediately thereafter increasing the product inventory count by the number of products received as identified by the electronic identifiers.

7. (Original) A method according to Claim 1 further comprising providing each customer with an initial amount of each product before maintaining the product inventory count, wherein the initial amount of each product is received by the at least one customer from the storage unit.

8. (Original) A method according to Claim 7, wherein each product includes at least one electronic identifier, and wherein providing each customer with the initial amount of each product further comprises reading each electronic identifier as the initial amount is received.

9. (Original) A method according to Claim 1, wherein the supply amount is bounded by the lower limit and the upper limit.

10. (Cancelled)

11. (Previously Presented) A system for providing at least one product from a supplier to at least one remote customer, wherein the customer is capable of receiving and shipping out the at least one product, wherein the supplier and the at least one customer have an open purchase order comprising an acceptable inventory range bounded by a lower and an upper limit for each product that the supplier provides to the at least one customer, said system comprising:

a storage unit disposed remote from the supplier and proximate to the at least one customer, wherein a supply amount of the at least one product is stored in said storage unit, wherein the supplier provides the at least one product to the customer from the supply amount stored in the storage unit;

a first processing unit disposed proximate the at least one customer for maintaining a product inventory count for each product representative of the amount of the product that is maintained in inventory by the respective customer, wherein the product inventory count is decreased as the customer ships out each product, and wherein the product inventory count is increased as the customer receives additional amounts of each product; and

a second processing unit disposed proximate the supplier, wherein at least one of the supplier and said second processing unit is capable of monitoring the product inventory count such that at least one of the supplier and said second processing unit is capable of detecting product inventory counts that approach the respective lower limit, wherein the product inventory count approaches the respective lower limit when the product inventory count falls below a notification level greater than the lower limit and between the lower limit and the upper limit.

12. (Original) A system according to Claim 11, wherein said second processing unit is further capable of sending a shipment request to the supplier when at least one of the supplier and said second processing unit has detected at least one product inventory count approaching the respective lower limit, wherein when the supplier receives the shipment request the supplier is capable of providing the respective customer with an additional amount of the respective product, wherein the supplier provides the additional amount independent of a purchase order associated with the additional amount, and wherein the product inventory count is within the acceptable inventory range once the additional amount is received.

13. (Original) A system according to Claim 11, wherein said first processing unit is capable of storing the product inventory count in an electronic file, wherein said first processing unit is capable of transferring the electronic file, wherein said second processing unit is capable of receiving the electronic file, and wherein said second processing unit monitors the electronic file.

14. (Original) A system according to Claim 13, wherein said first processing unit is capable of transferring the electronic file over the World Wide Web, and wherein said second processing monitors a display of the product inventory count stored within the electronic file.

15. (Original) A system according to Claim 13, wherein said first processing unit stores the product inventory count in an electronic file in an extensible markup language format.

16. (Original) A system according to Claim 11, wherein each product includes at least one electronic identifier, wherein said first processing unit reads each electronic identifier as the customer ships out the respective product and immediately thereafter decreases the product inventory count by the number of products shipped out as identified by the electronic identifiers, and wherein said first processing unit reads each electronic identifier as the customer receives the respective product and immediately thereafter increases the product inventory count by the number of products received as identified by the electronic identifiers.

17. (Original) A system according to Claim 11, wherein said first processing unit is further capable of storing a product inventory count associated with an initial amount of the at least one product before maintaining the product inventory count, wherein said first processing unit stores the initial amount as the at least one customer receives the initial amount from the storage unit.

18. (Original) A system according to Claim 17, wherein each product includes at least one electronic identifier, wherein said first processing unit is capable of reading each electronic identifier as the initial amount of the at least one product is received by the customer, wherein said first processing unit stores the product inventory count associated with the initial amount according to the number of products received as identified by the electronic identifiers.

19. (Original) A system according to Claim 11, wherein the supply amount is bounded by the lower limit and the upper limit.

Claims 20 – 58 (Cancelled).

59. (Previously Presented) A method according to Claim 2, wherein the product inventory count is less than the upper limit and within the acceptable inventory range once the respective customer receives the additional amount.

60. (Previously Presented) A system according to Claim 12, wherein the product inventory count is less than the upper limit and within the acceptable inventory range once the additional amount is received.

9. ***Evidence Appendix.***

None.

10. ***Related Proceedings Appendix.***

None.

CONCLUSION

For at least the foregoing reasons, Appellants respectfully request that the rejections be reversed.

Respectfully submitted,

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